Lung volume reduction-a great chance for emphysema patients!

Franzen, Daniel P ; Weder, Walter

DOI: https://doi.org/10.21037/jtd.2018.04.144

Lung volume reduction—a great chance for emphysema patients!

Hyperinflation is the key pathophysiological mechanism of pulmonary emphysema leading to dyspnea and worsening quality of life (1-3). Therefore, lung volume reduction has become an integral part of holistic patient management after all conservative possibilities such as smoking cessation, pulmonary rehabilitation, vaccination and pharmacological therapy have been established according to international recommendations (4,5). Since 2017 both, lung volume reduction surgery (LVRS) and bronchoscopic lung volume reduction (BLVR) using valves or coils are recommended by the Global Initiative for Obstructive Lung Disease (GOLD) (5). In addition, more BLVR procedures by thermic and chemical means have become available within clinical studies (6,7). When patients are selected appropriately, current evidence on surgical and bronchoscopic approaches demonstrated effectiveness regarding improvement of pulmonary function, 6-minute walk distance (6MWD) and quality of life with an acceptable safety profile (8,9). However, there are still many areas of uncertainty regarding patient selection for individual LVR procedures and the question, which treatment option is optimal for which patient and emphysema pattern. Indeed, a recent review article by Shah et al. is providing an excellent overview on the currently available techniques (10), but it was not without criticism due to its unbalanced view on LVRS (11). Eventually, all prospective evidences in this field are single arm observational studies or studies randomizing a LVR procedure against standard of care. Most of these studies are not investigator initiated, and there is no direct in-between comparison of any LVR procedure available.

The present special issue aims to provide a unique platform for leading experts in the field of LVR to summarize the current evidence and future directions from different views. This issue cannot give a concluding answer to the key question mentioned above. Although there are studies under way, which compare LVRS with BLVR in randomized trials, it is uncertain if there will be a simple answer at all. Eventually, pulmonary emphysema is a multifaceted disease with different anatomical patterns, co-morbidities and preferences from the patient's point of view. Thus, emphysema treatment will remain subject to a multidisciplinary, but highly specialized team approach to find the individual appropriate therapy concept for each patient. The present special issue may assist the reader in finding the optimal approach. In this spirit, we want to thank all authors cordially for their precious contribution.

Acknowledgements

None.

References

1. Rossi A, Aisanov Z, Avdeev S, et al. Mechanisms, assessment and therapeutic implications of lung hyperinflation in COPD. Respir Med 2015;109:785-802.
2. O'Donnell DE. Hyperinflation, dyspnea, and exercise intolerance in chronic obstructive pulmonary disease. Proc Am Thorac Soc 2006;3:180-4.
3. Kemp SV, Polkey MI, Shah PL. The epidemiology, etiology, clinical features, and natural history of emphysema. Thorac Surg Clin 2009;19:149-58.
4. NICE NIfHaCE. Chronic obstructive pulmonary disease in over 16s: diagnosis and management. 2010. Available online: https://www.nice.org.uk/guidance/cg101/resources/chronic-obstructive-pulmonary-disease-in-over-16s-diagnosis-and-management-35109323931589
5. Gold Gifold. Pocket Guide to COPD Diagnosis, Management and Prevention—A Guide for Health Care Professionals. 2017. Available online: http://goldcopd.org/wp-content/uploads/2016/12/wms-GOLD-2017-Pocket-Guide.pdf. Accessed November 2017.
6. Shah PL, Gompelmann D, Valipour A, et al. Thermal vapour ablation to reduce segmental volume in patients with severe emphysema: STEP-UP 12 month results. Lancet Respir Med 2016;4:e44-5.
7. Come CE, Kramer MR, Dransfield MT, et al. A randomised trial of lung sealant versus medical therapy for advanced emphy-

sema. Eur Respir J 2015;46:651-62.
8. van Agteren JE, Carson KV, Tiong LU, et al. Lung volume reduction surgery for diffuse emphysema. Cochrane Database Syst Rev 2016;10:CD001001.
9. van Agteren JE, Hnin K, Grosser D, et al. Bronchoscopic lung volume reduction procedures for chronic obstructive pulmonary disease. Cochrane Database Syst Rev 2017;2:CD012158.
10. Shah PL, Herth FJ, van Geffen WH, et al. Lung volume reduction for emphysema. Lancet Respir Med 2017;5:147-56.
11. Franzen D, Weder W. Lung volume reduction for emphysema. Lancet Respir Med 2017;5:e23.

Daniel P. Franzen

Walter Weder

Daniel P. Franzen
Division of Pulmonology, University Hospital Zurich, Zurich, Switzerland.
(*Email: daniel.franzen@usz.ch*)
Walter Weder
Division of Thoracic Surgery, University Hospital Zurich, Zurich, Switzerland.
(*Email: walter.weder@usz.ch*)
doi: 10.21037/jtd.2018.04.144
Conflicts of Interest: The authors have no conflicts of interest to declare.
View this article at: http://dx.doi.org/10.21037/jtd.2018.04.144

Cite this article as: Franzen DP, Weder W. Lung volume reduction—a great chance for emphysema patients! J Thorac Dis 2018;10(Suppl 23):S2696-S2697. doi: 10.21037/jtd.2018.04.144

